



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

agent is permitted to make, and is thus constituted a point of departure for the direction of further movements. When in this way an object is once realized through activities that can be observed, remembered, and described, it can be re-experienced at will by human individuals. It is consequently given a place in the objective order, the world that exists for all voluntary agents. This actual world is a conceptual system; the objects which compose it are universals because they represent possibilities of realization for all human individuals. The realization of an end involves, as we have seen, the cooperation of the two activities of selection and movement. The two fundamental types of relation by which experiences are correlated and given meaning as objects of thought are those of mechanism and teleology. If we add to these the principle of identity based upon the underlying unity of volition itself, we have the three fundamental thought-forms or categories.

HENRY W. WRIGHT.

LAKE FOREST COLLEGE.

PURPOSE, CHANCE, AND OTHER PERPLEXING CONCEPTS

IN a recent note on my discussion of the entelechial interpretation of purpose,¹ Professor Lawrence J. Henderson appears to rest his own theory of teleology on the "uniqueness" of a certain ensemble of physical and chemical characteristics of the three elements which figure most prominently in organic compounds. It was against this very type of argument that my criticism was directed. In medieval science this mode of reasoning was common enough. The circle is a unique figure; hence the planets *must* move in circles. Seven is a unique number—the highest prime under ten; hence, there must be seven planets; there can be no more, no less. With all due appreciation of Professor Henderson's wide knowledge of chemistry and physics, it would seem that he has selected a lot of striking characters, enumerated them, called the combination "unique," and from this has argued to a teleological view of the universe.

Against this conclusion it may be urged, (1) that "uniqueness" of itself carries little weight, since there are hundreds of "unique" combinations of properties in the world, some of which are important, others not. (2) That the *value* of the "unique" combination of characteristics which Professor Henderson has studied can only be determined by making a corresponding study of the *unfit* characteristics which go with them. This would furnish the denominator of the fraction whose numerator Professor Henderson has (I believe) very fairly evaluated.

¹ This JOURNAL, Vol. XIII., pp. 325 ff.

Professor Jared S. Moore points out in a note² a confusion due to my use of the word *chance* in two distinct senses. (1) When we speak of the two alternatives "design" and "chance," the latter is generally understood to mean either an uncaused result or at least unregulated causation. (2) The notion of *chance variation* in the natural selection theory is somewhat different. When one meets a friend "by chance" we suppose two separate series of events, each of which by itself is causally determined; but the conjunction of the two series at this particular point is not the result of either set of causes. This is, I believe, a legitimate scientific use of the term *chance*. The variations in plants and animals which natural selection works upon are of this sort. Each parental germ-cell is causally determined; the combination of characters in the offspring, though fully "determined," is nevertheless a "chance occurrence" in this sense.

Professor Moore's criticism of my ambiguous use is justified, but I can not agree with the deduction which he draws. Use two words instead of the single word *chance*, or spell Chance with a capital in the first sense, and his objection to admitting that science is the final arbiter in interpreting purpose seems to disappear.

In the judgment of certain other critics my examination of teleology fails to take into account a third alternative cherished by many philosophers, an interpretation which is *neither* entelechial nor mechanistic. Possibly they are correct. Despite many earnest endeavors I have never succeeded in mastering any "philosophical" exposition of teleology from Kant to Bosanquet that has come to my attention. Might it not be worth while for some philosopher to write a "primer" of teleology from this standpoint, for the benefit of the plain every-day scientist who is interested in the problem?

Meanwhile it would seem desirable for mechanistic scientists to avoid using the term *teleology* in their expositions on account of its ambiguity. Till recently I believed it to be a proper equivalent for *the science of purpose*. It appears to be used also to include *harmony* and *trend*, which are quite different concepts and should not be confused with purpose.

HOWARD C. WARREN.

PRINCETON UNIVERSITY.

REVIEWS AND ABSTRACTS OF LITERATURE

The Circulation and Sleep: Experimental Investigation Accompanied by an Atlas. JOHN F. SHEPARD. New York: The Macmillan Company. 1914. Pp. ix + 83.

The author of this work measures the blood supply sent to the brain

² This JOURNAL, Vol. XIII, p. 158.